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L16: Entry 1 of 3 File: PGPB Jul 18, 2002

DOCUMENT-IDENTIFIER: US 20020095692 A1
TITLE: Conditional mutants of influenza virus M2 protein

Summary of Invention Paragraph (17):
[0015] The fragments, mutants and other derivatives of M2 preferably retain substantial homology with the M2 sequence set forth in SEQ. ID. No. 1, taken from the Weybridge isolate of avian influenza A virus. As used herein, "homology" means that the two entities share sufficient characteristics for the skilled person to determine that they are similar in origin and function. Preferably, homology is used to refer to sequence identity. Thus, the derivatives of M2 preferably retain substantial sequence identity with SEQ. ID. No. 1 (or its encoded polypeptide product shown in SEQ. ID. No. 2).

Summary of Invention Paragraph (64):
[0062] Preferably, therefore, the transgene is under the control of a tissue-specific control element. This may include one or more of a tissue-specific promoter, enhancer or locus control region (LCR). Moreover, the transgene may be integrated at a specific position in the genome of the host mammal, which may provide tissue specificity as a result of the environment in which the transgene is integrated.

Summary of Invention Paragraph (69):
[0067] Both expression and cloning vectors generally contain nucleic acid sequence that enable the vector to replicate in one or more selected host cells. Typically in cloning vectors, this sequence is one that enables the vector to replicate independently of the host chromosomal DNA, and includes origins of replication or autonomously replicating sequences. Such sequences are well known for a variety of bacteria, yeast and viruses. The origin of replication from the plasmid pBR322 is suitable for most Gram-negative bacteria, the 2 m plasmid origin is suitable for yeast, and various viral origins (e.g. SV 40, polyoma, adenovirus) are useful for cloning vectors in mammalian cells. Generally, the origin of replication component is not needed for mammalian expression vectors unless these are used in mammalian cells competent for high level DNA replication, such as COS cells.

Summary of Invention Paragraph (73):
[0071] Since the replication of vectors is conveniently done in E. coli, an E. coli genetic marker and an E. coli origin of replication are advantageously included. These can be obtained from E. coli plasmids, such as pBR322, Bluescript.COPYRGT. vector or a

pUC plasmid, e.g. pUC18 or pUC19, which contain both E. coli replication origin and E. coli genetic marker conferring resistance to antibiotics, such as ampicillin.

Summary of Invention Paragraph (78):
[0076] Advantageously, a eukaryotic expression vector encoding M2 may comprise a locus control region (LCR). LCRs are capable of directing high-level integration site independent expression of transgenes integrated into host cell chromatin, which is of importance especially where the M2 gene is to be expressed in the context of a permanently-transfected eukaryotic cell line in which chromosomal integration of the vector has occurred, or in transgenic animals. In the context of the present invention, the CD2 LCR is advantageously used, for example in combination with the CD2 promoter.

Summary of Invention Paragraph (80):
[0078] An expression vector includes any vector capable of expressing M2 nucleic acids that are operatively linked with regulatory sequences, such as promoter regions, that are capable of expression of such DNAs. Thus, an expression vector refers to a recombinant DNA or RNA construct, such as a plasmid, a phage, recombinant virus or other vector, that upon introduction into an appropriate host cell, results in expression of the cloned DNA. Appropriate expression vectors are well known to those with ordinary skill in the art and include those that are replicable in eukaryotic and/or prokaryotic cells and those that remain episomal or those which integrate into the host cell genome. For example, DNAs encoding M2 may be inserted into a vector suitable for expression of cDNAs in mammalian cells, e.g. a CMV enhancer-based vector such as pEVRF (Matthias, et al., (1989) NAR 17, 6418).

CLAIMS:

8. The transgenic animal according to claim 7 wherein the transgene is under the control of one or more of a tissue-specific enhancer, a tissue-specific promoter and a tissue-specific LCR.

WEST Search History

DATE: Sunday, March 23, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L16	L12 and LCR.clm.	3	L16
L15	L12 and LCR.ti.	0	L15
L14	L12 and (episom$ near LCR)	0	L14
L13	L12 and ((replication origin) near mammal$)	0	L13
L12	L11 and (replication origin)	237	L12
L11	L10 and origin	920	L11
L10	episom$ and LCR	1262	L10
L9	L8 and LCR	0	L9
L8	(replication origin) near mammal$	11	L8
L7	replication origin	4229	L7
L6	origin of replication	0	L6
L5	mammalian origin of replication	0	L5
L4	L3 and (origin of replication)	0	L4
L3	L2 and replication	2	L3
L2	LCR near plasmid	12	L2
DB=USPT; PLUR=YES; OP=ADJ			
L1	LCR near plasmid	11	L1

END OF SEARCH HISTORY

AMJ
3/23/03